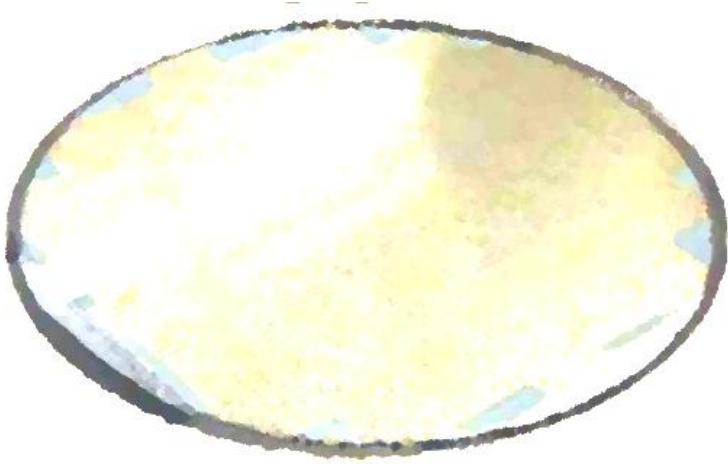




**CMP DEPARTMENT**



# FC200S-CMP Slurry

*Particle counter for CMP slurry*

0.2  $\mu\text{m}$  – 500  $\mu\text{m}$

[www.occhio-instruments.com](http://www.occhio-instruments.com)

**Occhio SA**, 4 rue des chasseurs ardennais BE4031 Angleur (Belgium) Tel:+32 (0) 42 43 00 14

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# OCCHIO Instruments: Particle analyzers

In 2001, OCCHIO Instruments began developing devices used for characterizing particles, using digital image analysis methods. Capable of measuring particles from 200 nm to 10 cm, they provide both [granulometric](#), and morphological data, and can also be used as high-resolution counters.

In 2010, the FC200 line was created. More than five instruments make up the FC200 line today. For micro-electronic applications, OCCHIO has created the new FC200S CMP Slurry.

## FC200S-CMPslurry: particle aggregate detection

The FC200S-CMP slurry is designed to count particles/mL. Because it uses digital imaging technology, it also allows for morphological analysis.

The instruments can accurately identify every type of particle population in the suspension. Ex: In a particle solution it will be easy to identify different particles, pollution, or droplets of oil. FC200S-CMP Slurry is designed with an adaptive configuration. The user will be able to update the instrument with new data provided by

OCCHIO INSTRUMENTS.



- Designed to work under a fume hood
- Particle Counting
- High resolution optical bench (detection from 200 nm)
- Monochromatic collimated light
- Pipette tip or tubing injection
- Callisto™ Software
- Can be used with a laptop

- 3-way syringe pump
- BK7 glass syringe
- Wide flow rate range
- Teflon tubing
- Compatible with DLS and 4F



### FLOWCELL FOR CMP Slurry

- Calibrated spacer = perfect counting
- Dedicated glass window geometry
- Special optical glass for CMP Slurry
- Strong design



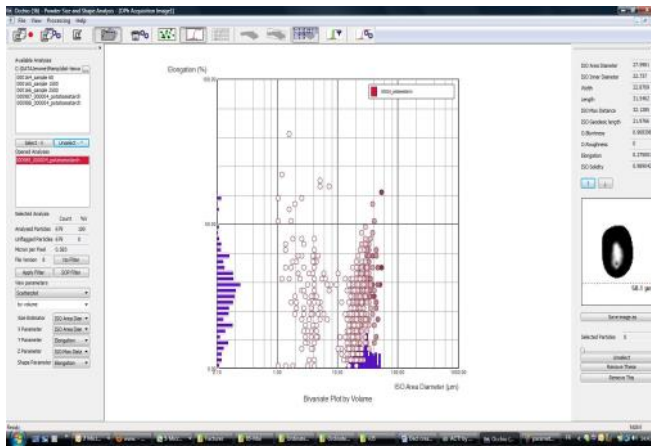
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# FC200S-CMPslurry: More than a particle counter

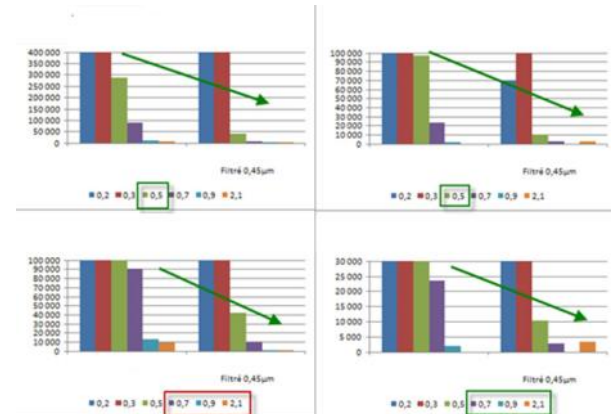


## CALLISTO SOFTWARE

- Particle count by mL
- Particle size analysis
- Morphology analysis
- Special filtering capabilities
- More than 52 morphological parameters
- Export to txt and Excel format

## Special algorithms

- Particle size versus time
- Stability analysis
- Aggregates detection
- Sedimentation analysis
- Kinetic analysis on several days
- Fast and easy analysis



## CMP Slurry analysis: Aggregate detection

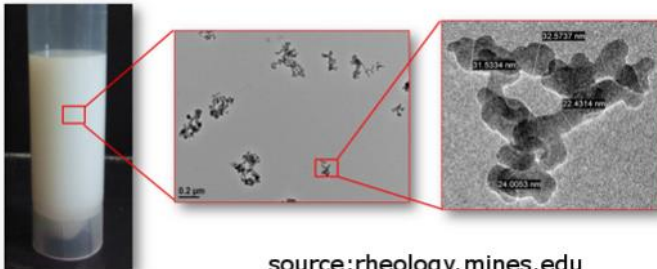
In order to avoid scratching on glass surfaces, it is crucial to check a CMP Slurry before finishing. The particle counter allows the detection of aggregates in the suspension that are scratching the glass.

Because it uses digital imaging, the FC200S CMP Slurry is unique in that it can detect very small amounts of particles in suspension.

Using Callisto Software, a user can correlate their data to corresponding images.

Sample injection is automatic, and requires no dilution.

Fumed Silica Chemical Mechanical Polishing Slurry



source: rheology.mines.edu

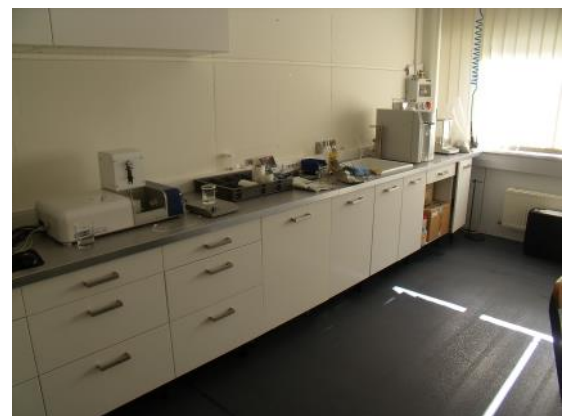
## TECHNICAL SUPPORT

OCCHIO is a team of specialists in image analysis and particle size analysis.

OCCHIO collaborates with academic laboratories for R&D.

Technical support is provided in order to help all users.

Occhio devices + technical support  
= Perfect results



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# TECHNICAL SPECIFICATIONS

Model	FC200S-CMP slurry
Particle size range	Wet method : 0.2-500microns
Time duration	2-5 minutes (sample dependent)
Parameters	<p>Norms ISO 9276-6; 7; 8 + Parameters OCCHIO</p> <p><b>Particle size:</b> ISO Area diameter; ISO Inner diameter; Mean diameter; Perimeter diameter; Crofton diameter; Half Crofton diameter; Width; Length; Ellipse Width; Ellipse Length; ISO Max Distance;</p> <p>ISO Geodesic Length;</p> <p><b>Morphology:</b> Occhio Bluntness; Occhio Roughness; Elongation; ISO Aspect Ratio; Ellipsoid Elongation; Ellipsoid Roundness; Ellipse Ratio; ISO Eccentricity</p> <p>ISO Straightness; ISO Roundness; ISO Compactness; ISO Extent; ISO Solidity; Convexity; ISO Circularity, Luminance mean, Luminance var.</p>
Dimension and weight	630 x350x330 mm ; 18.5 kg
Disperser	Magnetic stirrer and ultrasonic probe are optional
Optical bench	C-Mos 10 Mpixels ; Collimated and monochromatic light
Validation	IQ,OQ,PQ in option
Computer Configuration	Windows 7-8, , Intel Core i5-650 @3.2GHz, 4MB cache ; 4 GB @ 1156MHz , HD 500GB
Power supply	110-240 V 50/60 Hz
Working conditions	Temperature 5°C – 45°C, HR 35-80 %
Images format	Bitmap
Database	*.oph , export to txt and excel
Statistic presentation	<p>Particle size distribution (counting, volume)</p> <p>Morphology distribution</p> <p>Individual picture for each analyzed particle</p> <p>Scatterplot</p> <p>PDF report .....</p>

These specifications can change in future in relation with new developments